

Serial No. 10/675,987
Amdt. dated December 8, 2005
Reply to Office Action of August 8, 2005

Docket No. YHK-0121

Amendments to the Specification:

Please replace the paragraph on page 6, staring at line 26, with the following amended paragraph:

The jitter value is liable to be more increased as a temperature or an neighbor temperature of the PDP goes lower. This forces the PDP to make an unstable address discharge at a low temperature. Thus, since a miss writing causing a failure of cell selection occurs to emerge a black noise on a displayed picture, ~~a-an~~ environment confrontation ability is deteriorated.

Please replace the paragraph on page 7, staring at line 1, with the following amended paragraph:

In the mean time, Japanese Patent Laid-open Gazette No. 2001-135238 has suggested a PDP wherein a content of Xe in a discharge gas sealed within the PDP is increased into more than 5 volume %, thereby allowing a higher driving voltage and a much higher brightness in comparison to the conventional low-density Xe panel. However, a high-density Xe panel has a larger jitter value of the address period as a content of Xe goes higher. Accordingly, it is difficult to implement a high-density Xe panel due to such a jitter value of the address period.

Please replace the paragraph on page 7, staring at line 28, with the following amended paragraph:

In order to achieve these and other objects of the invention, a protective film of a plasma display panel according to one aspect of the present invention includes a main component of magnesium oxide (MgO) and an addition of silicon (Si) less than 500 wt. ppm.

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Please replace the paragraphs on page 8, staring at line 4 through line 17, with the following amended paragraphs:

The protective film further includes an addition of calcium (Ca) less than 50 wt. ppm, iron (Fe) less than 50 wt. ppm, aluminum (Al) less than 250 wt. ppm, nickel (Ni) less than 5 wt. ppm, sodium (Na) less than 5 wt. ppm and potassium (K) less than 5 wt. ppm.

Herein, a discharge gas containing xenon (Xe) more than 5 volume % is sealed within the plasma display panel.

A method of fabricating a protective film of a plasma display panel according to another aspect of the present invention includes the step of forming the protective film having a main component of magnesium oxide (MgO) and an addition of silicon (Si) less than 500 wt. ppm.

Please replace the paragraph on page 8, staring at line 30, with the following amended paragraph:

The protective film further includes an addition of calcium (Ca) less than 50 wt. ppm, iron (Fe) less than 50 wt. ppm, aluminum (Al) less than 250 wt. ppm, nickel (Ni) less than 5 wt. ppm, sodium (Na) less than 5 wt. ppm and potassium (K) less than 5 wt. ppm.

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Please replace the paragraph on page 9, staring at line 3, with the following amended paragraph:

The method further includes the step of sealing a discharge gas containing xenon (Xe) more than 5 Vol % within the plasma display panel.

Please replace the paragraphs on page 10, staring at line 13 through page 11 line 26, with the following amended paragraphs:

There are various method adding a slight content of Si when the protective film according to the embodiment of the present invention using the vacuum deposition technique. The protective film may be deposited by a single source by adding a slight content of Si to a source material and a target, etc. (hereinafter referred to as "source material") used for the vacuum deposition. Alternatively, silicon (Si) may be added to the protective film by using both the existent MgO and Si as a source. In this case, a content of Si can be controlled by an adjustment of a power applied to the silicon source. Herein, the source material is prepared by as a sea water or a magnesium in the rough in which a component of MgO is more than 99.5wt%. In this case, calcium (Ca) less than 300 wt. ppm, iron (Fe) less than 500 wt. ppm, aluminum (Al) less than 250 wt. ppm, nickel (Ni) less than 5 wt. ppm, sodium (Na) less than 5 wt. ppm and potassium (K) less than 5 wt. ppm can be contained as impurities. Also, silicon (Si) less than 5000 wt. ppm is added as indicated by the following Table 1. In other words, a slight content of silicon (Si) for improving a secondary electron emission characteristic of the protective film is included in the

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source material as indicated by the following Table 1.

Table 1

MgO	99.5wt% ~ 99.99999wt%
Si	Below 5000 <u>wt. ppm</u>

By such a protective film deposition method, an MgO protective film is deposited onto an upper substrate of the PDP provided with a sustain electrode pair Y and Z and a dielectric layer. The protective film formed on the upper substrate of the PDP by such a deposition process and added with a slight content of Si slightly contains a magnesium oxide (MgO) close to 100wt% and silicon (Si) less than 500 wt. ppm for improving a secondary electron emission characteristic of the protective film as indicated by the following Table 2.

Table 2

MgO	99.5wt% ~ 99.99999wt%
Si	Below 500 <u>wt. ppm</u>

Alternatively, the protective film formed on the PDP may contain calcium (Ca) less than 50 wt. ppm, iron (Fe) less than 50 wt. ppm, aluminum (Al) less than 250 wt. ppm, nickel (Ni) less than 5 wt. ppm, sodium (Na) less than 5 wt. ppm and potassium (K) less than 5 wt. ppm.

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Please replace the paragraph on page 12, staring at line 26 through page 13 line 4, with the following amended paragraph:

As can be seen from Fig. 5, such an addition of the silicon (Si) can reduce a jitter value of the address period. However, if a content of the silicon (Si) is increased beyond a certain value, then a jitter is liable to be increased. Accordingly, it is desirable that the silicon (Si) having a content within a range capable of minimizing a jitter should be added to the protective film. To this end, a content of the silicon (Si) can be changed depending upon a content of another impurity and a deposition condition, etc., but an optimum content of the silicon (Si) added to the protective film is preferably about 20 wt. ppm to 300 wt. ppm.

Please replace the paragraphs on page 13, staring at line 20 through line 30, with the following amended paragraphs:

Fig. 6 shows an experiment result of a jitter characteristic for the protective film to which the silicon (Si) is added in a PDP sealed with a high-density Xe discharge gas containing xenon (Xe) more than 5 volume %.

As can be seen from Fig. 6, when the protective film of the PDP into which a high-density Xe discharge gas is sealed has a main component of magnesium oxide (MgO) and an addition of

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silicon (Si) less than 300 wt. ppm, then a jitter value of the address period shows a very low level that is approximately less than 0.6 μ s.